

CLAIMS

1. A method of initializing a plurality of protocol objects associated with respective communication protocols used to extract status information related to a monitored device communicatively coupled to a network, comprising:

selecting a communication protocol among the respective communication protocols;
retrieving, from a first memory, information for accessing the device using the selected communication protocol;

accessing the device using the selected communication protocol and the information retrieved from the first memory to attempt to obtain vendor information related to the device;

determining whether the vendor information was obtained from the device;

if the vendor information was obtained from the device, (1) obtaining, from a second memory, support information for extracting the status information using each of the respective communication protocols, and (2) storing the vendor information and the respective support information in each protocol object of the plurality of protocol objects; and

if the vendor information was not obtained from the device, repeating the preceding steps until the vendor information is obtained or until each communication protocol of the respective communication protocols has been selected.

2. The method of claim 1, further comprising:

accessing the device using the selected communication protocol and the information retrieved from the first memory to attempt to obtain model information related to the device.

3. The method of claim 1, wherein the selecting step comprises:

selecting the communication protocol among SNMP, HTTP, and FTP.

4. The method of claim 1, wherein the retrieving step comprises:

retrieving an IP address of the device.

5. The method of claim 1, wherein the selecting step comprises selecting FTP, and the retrieving step comprises retrieving at least one of a username and a password for accessing the device using FTP.

6. The method of claim 1, wherein the selecting step comprises selecting SNMP, and the retrieving step comprises retrieving at least one of a community name and a password for accessing the device using SNMP.

7. The method of claim 1, wherein storing the vendor information comprises storing the vendor information in protocol-dependent data structure associated with each protocol object.

8. The method of claim 1, wherein the retrieving step comprises:
retrieving at least one of a web page address, a keyword, and a relative location for accessing the device using HTTP.

9. The method of claim 1, wherein the accessing step comprises:
transmitting, to the device, the information to access the device using the selected communication protocol.

10. The method of claim 9, wherein the accessing step comprises:
receiving, by the device, the transmitted information; and
processing, by the device, the received information.

11. A system for initializing a plurality of protocol objects associated with respective communication protocols used to extract status information related to a monitored device communicatively coupled to a network, comprising:

means for selecting a communication protocol among the respective communication protocols;

means for retrieving, from a first memory, information for accessing the device using the selected communication protocol;

means for accessing the device using the selected communication protocol and the information retrieved from the first memory to attempt to obtain vendor information related to the device;

means for determining whether the vendor information was obtained from the device;

means for obtaining, from a second memory, support information for extracting the status information using each of the respective communication protocols, if the means for determining determines that the vendor information was obtained from the device; and

means for storing the vendor information and the respective support information in each protocol object of the plurality of protocol objects, if the means for determining determines that the vendor information was obtained from the device.

12. The system of claim 11, further comprising:

means for accessing the device using the selected communication protocol and the information retrieved from the first memory to attempt to obtain model information related to the device.

13. The system of claim 11, wherein the means for selecting comprises:

means for selecting the communication protocol among SNMP, HTTP, and FTP.

14. The system of claim 11, wherein the means for retrieving comprises:

means for retrieving an IP address of the device.

15. The system of claim 11, wherein the means for selecting comprises means for selecting FTP, and the means for retrieving comprises means for retrieving at least one of a username and a password for accessing the device using FTP.

16. The system of claim 11, wherein the means for selecting comprises means for selecting SNMP, and the means for retrieving step comprises means for retrieving at least one of a community name and a password for accessing the device using SNMP.

17. The system of claim 11, wherein the means for storing the vendor information comprises means for storing the vendor information in protocol-dependent data structure associated with each protocol object.

18. The system of claim 11, wherein the means for retrieving comprises:

means for retrieving at least one of a web page address, a keyword, and a relative location for accessing the device using HTTP.

19. The system of claim 11, wherein the means for accessing comprises:
means for transmitting, to the device, the information to access the device using the selected communication protocol.

20. The system of claim 19, wherein the means for accessing comprises:
means for receiving, by the device, the transmitted information; and
means for processing, by the device, the received information.

21. A computer program product having a computer usable medium for initializing a plurality of protocol objects associated with respective communication protocols used to extract status information related to a monitored device communicatively coupled to a network, comprising:

instructions for selecting a communication protocol among the respective communication protocols;

instructions for retrieving, from a first memory, information for accessing the device using the selected communication protocol;

instructions for accessing the device using the selected communication protocol and the information retrieved from the first memory to attempt to obtain vendor information related to the device;

instructions for determining whether the vendor information was obtained from the device;

if the vendor information was obtained from the device, (1) instructions for obtaining, from a second memory, support information for extracting the status information using each of the respective communication protocols, and (2) instructions for storing the vendor information and the respective support information in each protocol object of the plurality of protocol objects; and

if the vendor information was not obtained from the device, instructions for repeating the preceding instructions until the vendor information is obtained or until each communication protocol of the respective communication protocols has been selected.

22. The computer program product of claim 21, further comprising:
instructions for accessing the device using the selected communication protocol and the information retrieved from the first memory to attempt to obtain model information related to the device.

23. The computer program product of claim 21, wherein the instructions for selecting comprise:
instructions for selecting the communication protocol among SNMP, HTTP, and FTP.

24. The computer program product of claim 21, wherein the instructions for retrieving comprise:
instructions for retrieving an IP address of the device.

25. The computer program product of claim 21, wherein the instructions for selecting comprise instructions for selecting FTP, and the instructions for retrieving comprise instructions for retrieving at least one of a username and a password for accessing the device using FTP.

26. The computer program product of claim 21, wherein the instructions for selecting comprise selecting SNMP, and the instructions for retrieving comprise instructions for retrieving at least one of a community name and a password for accessing the device using SNMP.

27. The computer program product of claim 21, wherein the instructions for storing the vendor information comprise instructions for storing the vendor information in protocol-dependent data structure associated with each protocol object.

28. The computer program product of claim 21, wherein the instructions for retrieving comprise:
instructions for retrieving at least one of a web page address, a keyword, and a relative location for accessing the device using HTTP.

29. The computer program product of claim 21, wherein the instructions for accessing comprise:

instructions for transmitting, to the device, the information to access the device using the selected communication protocol.

30. The computer program product of claim 29, wherein the instructions for accessing comprise:

instructions for receiving, by the device, the transmitted information; and
instructions for processing, by the device, the received information.